T E C H N I C A L M E M O R A N D U M

Utah Coal Regulatory Program

November 21, 2005

TO: Internal File

THRU: Pamela Grubaugh-Littig, Permit Supervisor

THRU: Wayne H. Western, Team Lead

FROM: Dana Dean, P.E., Senior Reclamation Hydrologist

RE: Prep Plant & Refuse Pile Phase I and Phase III, Foundation Coal Company, Willow Creek Mine, C/007/0038, Task ID #2344

SUMMARY:

Foundation Coal Company applied for Phase I bond release for 49.1 acres associated with the Schoolhouse Canyon Refuse Pile, and Phase III bond release for 46.2 acres associated with the preparation plant area of the Willow Creek Mine on September 19, 2005. They completed reclamation of the areas in the spring of 2004.

This technical memorandum discusses the hydrology related issues pertaining to the application.

The bond release application meets the minimum requirements of the relevant hydrology regulations. The Division should approve it and incorporate it into the MRP.

TECHNICAL ANALYSIS:

RECLAMATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 784.14, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-301-512, -301-513, -301-514, -301-515, -301-532, -301-533, -301-542, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-733, -301-742, -301-743, -301-750, -301-751, -301-760, -301-761.

Analysis:

Hydrologic Reclamation Plan

The Permittee has met the requirements of R645-301-731. The bond release application includes maps and descriptions, indicating how they met the relevant hydrology requirements. The approved reclamation plan take into accounts site specific hydrologic conditions, and contains the steps the Permittee took during coal mining and reclamation operations, to meet the minimum requirements for Phase I (refuse pile) and Phase III (prep plant) bond release, by:

- Minimizing disturbance to the hydrologic balance within the permit and adjacent areas.
- Preventing material damage outside the permit area.
- Supporting approved post mining land use in accordance with the terms and conditions of the approved permit and performance standards of R645-301-750.
- Complying with the Clean Water Act (33 U.S.C. 1251 et seq.)
- Meeting applicable federal and Utah water quality laws and regulations.

The plan also includes the measures the Permittee took to:

- Avoid acid or toxic drainage.
- Prevent, to the extent possible (using the best technology currently available.) additional contributions of suspended solids to stream flows.
- Provide water treatment facilities when needed.
- Control drainage.

The approved reclamation plan (MRP) specifically addresses any potential adverse hydrologic consequences identified in the PHC, and includes preventative and remedial measures.

The Division has not required additional preventative, remedial or monitoring measures to assure that material damage to the hydrologic balance outside the permit area is prevented.

The following sections of this technical memo discuss the specific ways in which the Permittee has met the regulations, as they pertain to the application.

Diversions: Perennial and Intermittent Streams

The Permittee has met the requirements of R645-301-742.320 and subsections by designing all permanent diversions for intermittent flows (CGRD-1 through CGRD-5) to safely pass the runoff from a 100-year, 6-hour precipitation event. They present all design calculations and other pertinent information in Appendix 3.4N of Exhibit 19.

Diversions: Miscellaneous Flows

The Permittee has met the requirements of R645-301-742.330 and subsections by designing all permanent diversions for ephemeral flows (CGRD-6 through CGRD-10) to safely pass the runoff from a 10-year, 6-hour precipitation event. They present all design calculations and other pertinent information in Appendix 3.4N of Exhibit 19.

Sediment Control Measures

The Permittee has met the requirements of R645-742 and relevant subsections by using the best technology currently available (BTCA) to prevent, to the extent possible, additional contributions of sediment to stream flow or to runoff outside the permit area, meet the applicable effluent limitations, and minimize erosion to the extent possible.

The sediment control measures the Permittee used include (Sec. 3 .4-6(4)AB of Appendix 3.4N):

- Incorporation of hay and/or straw mulch into the soil.
- Deep gouging.
- Seeding.
- Mulching after seeding.
- Chemically anchoring the final mulch layer.

Findings:

The Permittee has met the minimum requirements of the Reclamation Plan: Hydrologic Information section of the Regulations.

MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

Analysis:

Final Surface Configuration Maps

The Permittee met the requirements of R645-301-542.300 by depicting the as-built final surface configuration (including cross-sections, profiles and watershed maps) for the Preparation Plant and Refuse Pile areas on Exhibits 3.4-13AB through 3.4-16AB.

Reclamation Treatments Maps

The Permittee met the requirements of R645-301-731.720 by depicting all diversions and treated areas on Exhibit 3.4-17AB.

Certification Requirements.

The Permittee met the requirements of R645-301-542.310, R645-301-731.720, and R645-301-512 by having a professional engineer certify Exhibits 3.4-13AB through 3.4-17AB.

Findings:

The Permittee has met the minimum requirements of the Maps, Plans, and Cross-Sections of Reclamation Operations section of the Regulations.

RECOMMENDATIONS:

The application meets the minimum requirements of the relevant hydrology regulations. The Division should approve Phase I and Phase III bond release.